

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed**1.1. Name of the Data, data collection Project, or data-producing Program:**

Sea Levels Online: Sea Level Variations of the United States Derived from National Water Level Observation Network Stations

1.2. Summary description of the data:

Water level records are a combination of the fluctuations of the ocean and the vertical land motion at the location of the station. Monthly mean sea level (MSL) variations were analyzed for 128 stations of the National Ocean Service's (NOS) National Water Level Observation Network (NWLON) having between 30 and 146 years of data. The sea level variations determined are the linear trend, the average seasonal cycle, and the interannual variability at each station. Monthly data up to the end of 2006 were used in the calculation and all stations had data spanning a period of 30 years or more. Since the derived trends include the local vertical land motion, they are spatially variable. Calculated MSL trends range from 9.85 mm/yr for Grand Isle, LA to -16.68 mm/yr for Skagway AK, and are consistent with previous trends published by NOS. Available data from this project include time series plots for each station of the monthly MSL with the seasonal cycle removed, a 5-month average, and the linear trend with its 95% confidence interval which was obtained after accounting for the average seasonal cycle; the seasonal cycle; the Interannual variation of mean sea level for all data to 2006; and the Interannual variation from 1980 to the present (updated monthly). The location and timing of any major earthquakes near stations in tectonically-active areas are noted since an associated vertical offset or a change in MSL trend is possible.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

Ongoing series of measurements

1.4. Actual or planned temporal coverage of the data:

1854 to Present

1.5. Actual or planned geographic coverage of the data:

W: -180, E: 180, N: 61.24, S: -14.28

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

raster digital data

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

User Services Team

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

tide.predictions@noaa.gov

2.5. Phone number:

301-713-2815

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

User Services Team

3.2. Title:

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- The data examined in this study consist of monthly mean sea levels (MSL) for 128 NWLON stations in operation for a span of at least 30 years. Although there may be long data gaps at some of the locations, the existing data provide good estimates of linear MSL trends since the vertical datums have been maintained through periodic leveling to stable benchmarks with respect to the adjacent landmass. The monthly means are an average of hourly water level heights for a complete month of data. The sea level variations determined in this study were the linear secular trend, the average seasonal cycle, and the residual variability at each station. Recorded water levels are a combination of changes in the sea level and the vertical land motion at the location of the gauge. Therefore, the trends derived are relative MSL trends and can be considered valid only for the region near the gauge with uniform vertical land motion. Calculation of absolute MSL trends requires the accurate determination of vertical land motion at the gauges and is beyond the scope of this study. In order to investigate whether MSL trends have been changing recently, the trend for the period 1950-1999 was calculated for the sixty NWLON stations with data spanning these years. When the trend from each station's entire data set was compared to the 1950-1999 trend, at only three stations (Eastport, Portland, and Boston) was there a statistically significant difference. At these three northern U.S. Atlantic stations, the recent trends are significantly lower than each station's overall trends. At none of the stations was the 1950-1999 trend significantly higher than the station's overall trend. The differences observed between stations, during this time period, were mostly due to differences in vertical land motion. The possibility that there are other 50-year periods with MSL trends statistically different than the overall trend is examined for sixteen of the NWLON stations with the longest data sets. Six Atlantic stations (Portland, Boston, The Battery, Baltimore, Charleston, and Cedar Key) have periods centered on years between 1930-1955 with significantly higher trends and/or periods centered on years between 1965 and 1975 with significantly lower trends. Seattle has a period centered on 1925 with a significantly lower trend and a period centered on 1945 with a significantly higher trend. For San Francisco, trends for 50-year periods centered from 1890 to 1915 are significantly lower than both the overall trend and the trend since the 1906 San Francisco earthquake. For periods centered on 1895, 1900, and 1905, the trend is actually negative. This suggests that there may have been a small vertical offset and/or change in trend caused by the earthquake.

5.1.1. If data at different stages of the workflow, or products derived from these

data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:

- 1.7. Data collection method(s)
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access
- 7.2.1. If data hosting service is needed, please indicate
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/37628>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-

Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:

https://idpgis.ncep.noaa.gov/arcgis/rest/services/NOS_Observations/CO_OPS_Products/MapServer

<https://tidesandcurrents.noaa.gov/googleeearth.html>

<https://tidesandcurrents.noaa.gov/sltrends/sltrends.shtml>

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To

Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):

Center for Operational Oceanographic Products and Services - Silver Spring, MD

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.